ESR-9710

802.11N GIGABIT ROUTER

2.4 GHz	802.11 n	300 Mbps

The Engenius Wireless-N Gigabit Router (ESR-9710) is a draft 802.11n compliant device that delivers up to 6x faster speeds than 802.11g while staying backward compatible with 802.11g and 802.11b devices. ESR-9710 is not only a Wireless Access Point, which lets you connect to the network without wires. There's also a built-in 4-port full-duplex 10/100/1000 Gigabit Switch to connect your wired-Ethernet devices together. The Router function ties it all together and lets your whole network shares a high-speed cable or DSL Internet connection.

The Access Point built into the Router uses advanced MIMO (Multi-Input, Multi-Output) technology to transmit multiple steams of data in a single wireless channel. The robust signal travels farther, maintaining wireless connections up to 3 times farther than standard 802.11g, eliminates dead spots and extends network range.
To protect the data and privacy, the Router can encode all wireless transmissions with 64/128-bit encryption. It can serve as your network's DHCP Server, has a powerful SPI firewall to protect your PCs against intruders and most known Internet attacks, and supports VPN pass-through. The router also provide easy configuration with the web browser-based configuration utility.

The incredible speed and QoS function of 802.11n (draft2.0) gigabit router is ideal for media-centric applications like streaming video, gaming, and VoIP telephony. It is adopt to run multiple media-intense data streams through the network at the same time, with no degradation in performance.

Features	Benefits
High Speed Data Rate Up to 300Mbps	Capable of handling heavy data payloads such as MPEG video streaming
IEEE 802.11n draft Compliant and backward compatible with 802.11b/g	Fully interoperable with IEEE 802.11b/g/n devices
Four built-in 10/100/1000Mbps Gigabit Switch Ports (Auto-Crossover)	Scalability, able to extend your network
Supports DNS/ DDNS	Lets users assign a fixed host and domain name to a dynamic Internet IP address.
Supports NAT (Network Address Translation)/NAPT	Shares single Internet account and provides a type of firewall by hiding internal IP addresses for keeping hacker out
Hide SSID	Avoids unallowable users sharing bandwidth, increases efficiency of the network
Firewall supports Virtual Server Mapping, DMZ, IP Filter, ICMP Blocking, SPI	Avoids the attacks of Hackers or Viruses from Internet
Support 802.1x authenticator, 802.11i (WPA/WPA2, AES), VPN pass-thru mechanisms	Provide mutual authentication (Client and dynamic encryption keys to enhance security

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Features	Benefits
WDS (Wireless Distribution System)	Make wireless AP and Bridge mode simultaneously as a wireless repeater
Universal Plug and Play (UPnP™)	Works with most Internet gaming and instant messaging applications for automatic Internet access
Filter Scheduling	The filter can be scheduled by days, hours or minutes for easy management
Real time alert	The detection of a list for Hacker log-in information
Web configuration	Helps administrators to remotely configure or manage the Router via Telnet/Web-browser

****** Subject to change without prior notice***

Technical Specifications

● Hardware Specifictions

➢ Hardware Summary

MCU	Ubicom IP5K, 275MHz
Memory	16MB DDR
Flash	4MB
Expansion Slots	Mini-PCI Slots
Physical Interface	● WAN: One 10/100/1000 Gigabit RJ-45 ● LAN: Four 10/100/1000 Gigabit RJ-45 ● Reset Button (1 second for Reboot, 5 second for Reset to Factory Default) ● Power Jack ● JTAG (for debug only)
LEDs Status	● Power/ Status ● WAN (Internet connection) ● LAN1~LAN4 (10/100/1000Mbps) ● WLAN (Wireless Connection)
Power Requirements	● Power Supply: 90 to 240 VDC ± 10% (depends on different countries) ● Device: 12 V/ 1.25A

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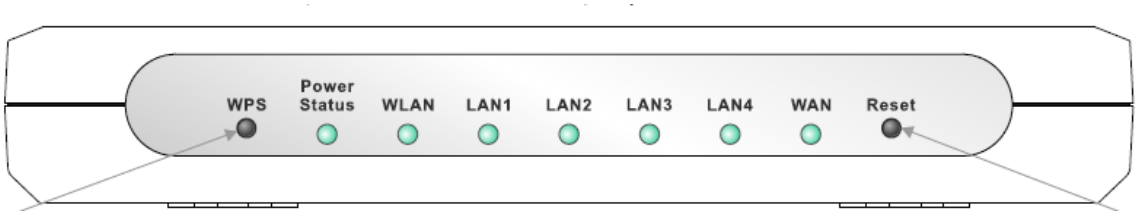
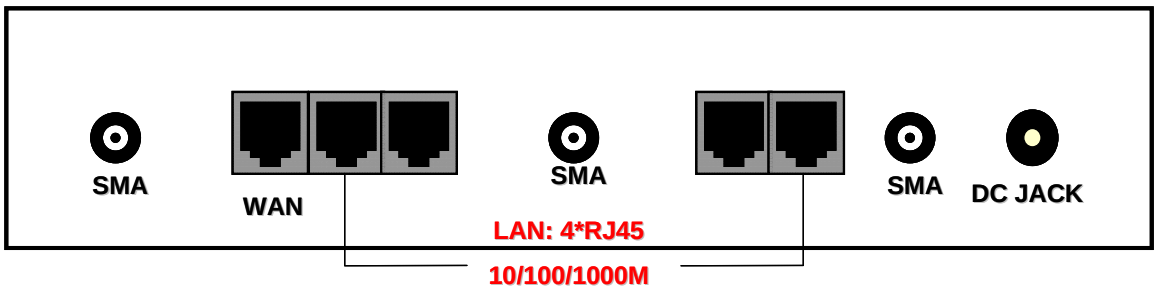
➢ Front Panel (LED status)

WAN	1 (Link->green on, traffic->blink)
LAN	4 (Link->green on, traffic->blink)
WLAN	1 (Link->green on, traffic->blink)
Power/Status	1 (On->green Test/reset default->blink)



Button **Button**

➢ Rear Panel (Interface)



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➢ Radio Specifications

Frequency Band	2.400 ~ 2.484 GHz
Media Access Protocol	Carrier sense multiple access with collision avoidance (CSMA/CA)
Modulation Technology	● OFDM: BPSK, QPSK, 16-QAM, 64-QAM ● DBPSK, DQPSK, CCK
Operating Channels	11 for North America, 14 for Japan, 13 for Europe
Receive Sensitivity (Typical)	• 2.412~2.472G(IEEE802.11b) (1Rx) -93dBm @ 1Mbps -91dBm @ 11Mbps • 2.412~2.472G(IEEE802.11g) (2Rx) -92dBm @ 6Mbps -79dBm @ 54Mbps • 2.412~2.472G(IEEE802.11N) (2Rx) -90 dBm MCS 8 -70 dBm MCS 15
Available transmit power	• 2.412~2.472G(IEEE802.11b) 19dBm @1~11Mbps • 2.412~2.472G(IEEE802.11g) 19 dBm @6Mbps 16 dBm @54Mbps • 2.412~2.472G(IEEE802.11N) 20 dBm MCS 8 16 dBm MCS 15
Antenna Gain	Peak Gain = 2 dBi Average Gain = 1.08 dBi (@ 2.45GHz, H-Plan)

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● Software Features

➢ Router and Gateway

Topology	Infrastructure
Operation Mode	AP/ Router/ WDS Bridge
LAN	• DHCP Server • Static IP • DNS • UPNP
WAN	• Static IP • DHCP Client • PPPoE • PPTP • Clone MAC • DNS Relay • DDNS-8 Verified Services
Router	• NAT/ NAPT • Static Routing- RIPv2 • Dynamic Route • Virtual server mapping • IP address mapping • Port Forwarding • Port Triggering • MAC address Filtering • ALG(Application Layer Gateway) support (RTP/RTSP, AOL, FTP, ICMP, WMP/MMS, NetMeeting, SIP)
QoS	• WMM • Intelligent Stream Handling/Wireless Intelligent Stream Handling ➢ Automatic Traffic Classification & Prioritization ➢ Dynamic Traffic Shaping & Packet Fragmentation ➢ Automatic Configuration

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Firewall	• Blocking Ping • ICMP Bolcking • SPI (Stateful Packet Inspection) • Rule Based (IP Address Ranges, Port Ranges & Schedule) • DMZ (Demilitarized Zone) Host • Policy Based Parental Controls ➢ Time Based Internet Access ➢ Port Range / Service Filtering ➢ Internet Domain Restriction ➢ Dynamic URL Filtering (OEM subscription service)
VPN	VPN pass-through (PPTP, L2TP, IPSEC)
Wireless	• 64/128 bit WEP Encryption • WPA Personal (WPA-PSK using TKIP or AES) • WPA Enterprise (WPA-EAP using TKIP) • 802.1x Authenticator • Hide SSID in beacons • Wi-Fi Protection Setup (WPS) • Auto Channel Selection

➢ Management

Configuration	Web-based configuration (HTTP)
Firmware Upgrade	Upgrade firmware via web-browser
Administrator Setting	• Administrator password change • Idle time out
Reset Setting	• Reboot • Reset to Factory Default
System monitoring	Status and Statistics, Time Zone & NTP Client, Event Log, Email Alarm

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